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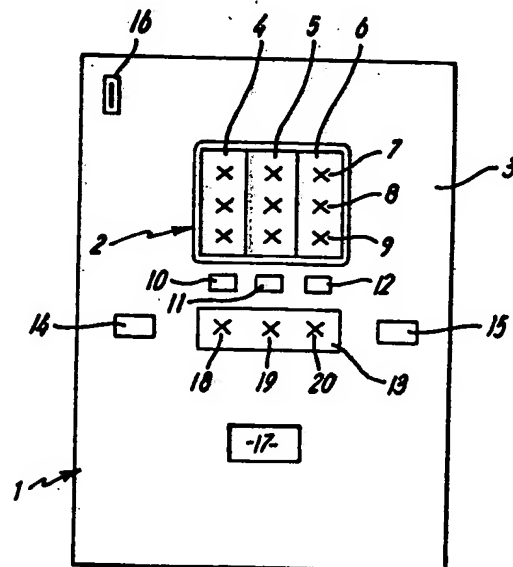
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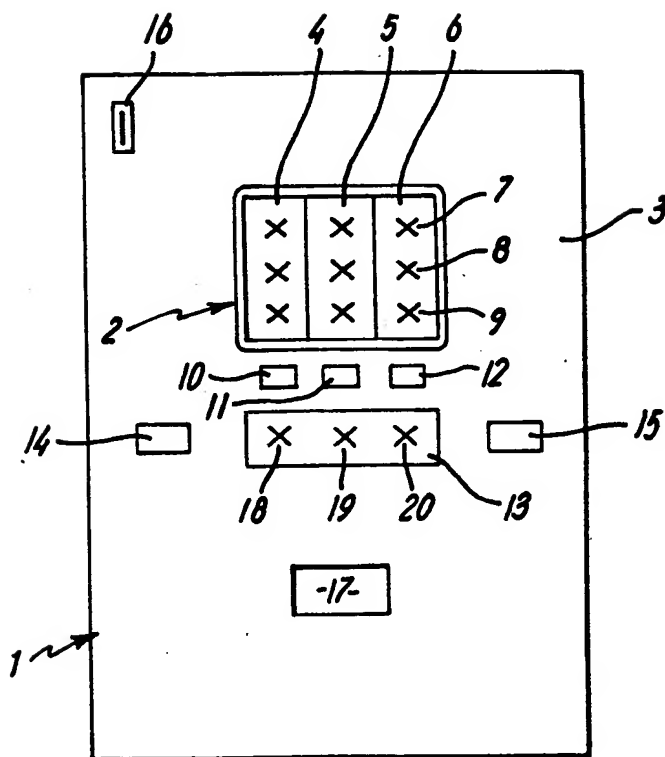
(54) Entertainment machines

(57) An entertainment machine, such as a fruit machine, has a main display region (2) at which a combination of symbols (7, 8, 9) is randomly selected and displayed. There is also a supplementary display region defined by an electronically controlled matrix display device (13), such as an LCD matrix. The combination produced at the main display region (2) is evaluated together with a combination produced with the supplementary display device (13). Information and decorative animation may also be produced on the supplementary display device (13).



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## SPECIFICATION

### Entertainment machines

5 This invention relates to coin- (or token-) operated entertainment machines of the kind (herein-  
after referred to as the kind defined) with which,  
on play of a game, a randomly selected combina-  
tion of symbols is displayed at a main display re-  
10 gion and an evaluation device produces a win  
indication in the event that the displayed combina-  
tion is of a predetermined winning nature. The in-  
vention is more particularly, although not  
exclusively, concerned with such a machine, which  
15 is of the kind known as a fruit machine, having a  
plurality of reels which have the symbols marked  
around their peripheries and which are rotated be-  
hind a window and then brought to rest after dif-  
ferent random periods of time to produce the  
20 randomly selected combination of symbols dis-  
played on one or more winning lines visible  
through the window.

With fruit machines as described above, it is  
usual to provide auxiliary game features to pro-  
25 mote playing interest, such as a hold feature  
whereby the player is given the option at the start  
of a game of holding one or more reels against ro-  
tation, a nudge feature whereby the player is given  
the option at the end of a game of stepping one or  
30 more reels through one or more stopping positions  
with the aim of improving the displayed combina-  
tion, and other features.

It is also known to use in substitution for the ro-  
tatable reels a vdu display (cathode ray tube) simu-  
35 lating rotating reels and this can be advantageous  
in so far as it can facilitate the provision of varied  
game features. However, vdu fruit machines tend  
to lack player appeal and also can be expensive to  
manufacture.

40 An object of the present invention is to provide  
an improved coin- (or token-) operated entertain-  
ment machine with which playing interest and  
player appeal can be achieved with a relatively  
simple and inexpensive construction.

45 According to the invention therefore there is pro-  
vided a coin- or token-operated entertainment ma-  
chine of the kind defined characterised by the  
provision of a display device operable to produce a  
supplementary display at a region different from  
50 said main display region, said display device com-  
prising an electronically controlled matrix display  
device, and said evaluation device being operable  
to evaluate the combination displayed at the main  
display region with reference to the said supple-  
55 mentary display.

By matrix display device is meant a device, such  
as a liquid crystal display, with which a visual  
change can be obtained at any of a number of dif-  
ferent locations by appropriate application of elec-  
60 trical signals to selected ones of a plurality of  
electrical terminals associated with the respective  
locations.

With the arrangement of the invention it will be  
appreciated that game features can be readily pro-  
65 vided with the aid of the supplementary display

device such as to promote playing interest, without  
necessarily detracting from the player appeal of  
the main display. Moreover, having regard to the  
nature of the supplementary display device a rela-  
70 tively simple and inexpensive construction can be  
achieved.

Preferably, the supplementary display comprises  
one or a combination of symbols of the same kind  
as those from which the main display is selected.  
75 In this case, the supplementary display may define  
a supplementary winning selection whereby, for  
example, a win indication is given if the main dis-  
play combination is the same as the supplemen-  
tary display combination or contains a symbol the  
80 same as that (or one of the symbols) in the supple-  
mentary display. In this way the player is given an  
extra chance or at least an extra mode of winning.

The nature of the supplementary display may be  
selected at random or in accordance with a prede-  
85 termined sequence or otherwise.

Also, the supplementary display may be made  
available in all games or in only some games as  
selected at random or in a predetermined manner.  
When available, the supplementary display may be  
90 produced automatically or only in response to op-  
eration of a player control such as a press button  
or the like.

The supplementary display may also be operable  
to produce an informative or decorative display  
95 such as alphanumeric information, animations or  
the like.

The entertainment machine of the invention is  
preferably a fruit machine, particularly a fruit ma-  
chine with rotatable reels as described above and  
thus may incorporate any device or feature, as ap-  
100 propriate, as known in the fruit machine art.

The invention will now be described further by  
way of example only and with reference to the ac-  
companying diagrammatic representation of one  
form of a fruit machine according to the invention.

The fruit machine comprises a large free-stand-  
ing housing 1 having a window 2 in a front wall 3  
thereof. Within the housing 1 behind the window 2  
there are three side-by-side reels 4,5,6 mounted for  
rotation about a common horizontal axis. The reels  
110 4-6 have 20 symbols (e.g. fruit) around their peri-  
pheries and have respective stepper motors opera-  
ble to rotate the reels and also to arrest same in  
precise registration with the window 2 (i.e. such  
that three symbols 7, 8, 9 are displayed through  
115 the window).

Beneath the window 2 there are three player-op-  
erable hold/nudge buttons 10, 11, 12 associated re-  
spectively with the three reels 4-6, and beneath  
these there is a supplementary display device 13  
120 yet to be described.

There are also player-operable control buttons  
14, 15 a coin slot 16 and a payout outlet 17.

125 Within the machine there is an electromechanical  
coin mechanism, an electromechanical payout  
mechanism, lamps and other electrical and elec-  
tronic devices which are connected, together with  
the device 13, the player-operable buttons 10-12,  
14, 15 and the reel stepper motors, to a micropro-  
130 cessor-based control circuit.

A win table, i.e. a list of predetermined winning combinations of the symbols on the reel peripheries, is printed on the front wall 3 of the machine.

The display device 13 comprises an LCD dot matrix display which in usual manner has multiple electrical terminals to which potentials are applied to effect change in the light-transmitting properties of sections of the display.

With the machine so far described a game can be played, in the following manner, after an appropriate coin has been inserted into the slot 6.

A main control button 14 is operated by the player and this causes the three reels 4-6 to be rotated by their respective stepper motors. After different respective random periods of time the reels are brought to rest thereby to display a randomly selected combination of three symbols along a horizontal win line in the middle of the window 2. If this combination corresponds to one of the winning combinations in the win table then an appropriate payout is made via the outlet 17.

In accordance with conventional practice the player may be forgiven the opportunity, on randomly selected occasions, to hold one or more reels against rotation at the start of a game and/or to step one or more reels through one or more stopping positions at the end of a game, by appropriate operation of the hold/nudge buttons 10-12. Also, on attaining a win, the player may be given the option of gambling the normal payout value, in the hope of increasing this, by operation of a gamble button 15.

At an appropriate stage in the game, e.g. immediately prior to rotation of the reels, immediately after all reels have been brought to rest, or during reel rotation, the supplementary display device operates to produce a display of three symbols 18, 19, 20. At the end of the game the symbol combination on the win line is not only assessed (by evaluation circuitry of the main control circuit) with reference to the win table but also with reference to the display on the device 13. The arrangement may be such that a win procedure is initiated if the win line combination is the same as the combination on the display device 13, whereby the player is given an extra win possibility which may be a special jackpot win. Alternatively or additionally the arrangement may be such that a win procedure is initiated if any symbol of the win line combination is the same as the symbol in the corresponding position on the display device 13. Any payout made as a consequence of correspondence of the two displays may be instead of or additional to any payout arising due to correspondence with the win line combination and one of the win table combinations.

The display device 13 may come into operation on every game or only on some games (e.g. selected at random) or only when requested by the player (e.g. by operation of a player control).

The display device 13 may produce a changing symbol display e.g. simulating rotation of reels or otherwise before the selected combination is displayed.

In addition to displaying combinations of sym-

bols the device 13 may also display animated characters as an integral part of features and general game play occurring at the same time and/or at a different time to the symbol display; also it may display alphanumeric information.

For example, animated characters may move across the display device 13 drawing attention to a displayed symbol or appearing to move the symbols.

With the arrangement described above an additional feature giving additional playing interest is readily achieved whilst retaining the conventional rotating reel format which is found to have special player appeal.

Moreover, due to the nature of the display device 13 which provides this additional feature, the machine can be manufactured in a particularly simple and convenient manner.

It is of course to be understood that the invention is not intended to be restricted to the details of the above embodiment which are described by way of example only. Thus, for example, although reference is made to a three-reel fruit machine it is also possible to use four reels (together with a corresponding four-symbol display on the device) or any other suitable agreement.

#### CLAIMS

1. A coin- or token-operated entertainment machine of the kind defined characterised by the provision of a display device operable to produce a supplementary display at a region different from said main display region, said display device comprising an electronically controlled matrix display device, and said evaluation device being operable to evaluate the combination displayed at the main display region with reference to the said supplementary display.

2. A machine according to claim 1, characterised in that the supplementary display comprises one or a combination of symbols of the same kind as those from which the main display is selected.

3. A machine according to claim 1 or 2, characterised in that the supplementary display defines a supplementary winning selection whereby a win indication is given if the main display combination is the same as the supplementary display combination or contains a symbol or symbols the same as a corresponding symbols or symbols of the supplementary display.

4. A machine according to any one of claims 1 to 3, characterised in that the supplementary display is also operable to produce an informative or decorative display.

5. A machine according to any one of claims 1 to 4, characterised in that said display device comprises an LCD dot matrix display device.

6. A machine according to any one of claims 1 to 5, which is a fruit machine.

7. A machine according to claim 1, substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.